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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/605,311	06/28/2000	Kevin J. Gallagher	0325.00379	6229

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EXAMINER

PEYTON, TAMMARA R

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 03/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/605,311

Applicant(s)

GALLAGHER ET AL.

Examiner

Tammara R Peyton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-20 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 2, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by *Giordano*, (US 4,654,545).
2. As per claims 1, 2, and 13, *Giordano* teaches an apparatus comprising:
 - a first circuit (12, Figs.1,2) configured to generate a reference output (122, Figs.1,2) in reference to a plurality of reference voltage (range from 3 volts to 17.5 volts, col. 2, lines 22-31) and
 - a second circuit (14, Figs.1,2) configured to generate an output voltage (Figs.1,2) and unknown voltage (ground, Fig.1) wherein said output voltage comprises accurately controlled hysteresis. (Abstract, col. 2, lines 33-col. 9)

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Giordano*, (US 4,654,545).

4. *Giordano* teaches a first circuit comprising a bandgap reference circuit which provides a controlled voltage; and, a second circuit comprising a comparator circuit, 14 that include hysteresis that sharpens the response of the comparator. *Giordano* does not expressly teach that the first circuit comprises a voltage generator. However, one of ordinary skill in that art would readily recognize that the bandgap reference circuit generates the reference output of the claim invention.

5. As per claim 6, one of ordinary skill would readily recognize that the bandgap reference circuit is configured to respond to voltage, process, and temperature variations.

6. Claims 1, 2, 3-7, and 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kimura et al.*, (US 6,281,828) and *Stakely et al.*, (US 5,122,680).

7. As per claims 1, 2, 12, 13, and 14, *Kimura* teaches an apparatus comprising:

- a first circuit (3, Figs. 6, 10, 16) configured to generate a reference output in reference to a plurality of reference voltage (REF n-1, REF 1) and
- a second circuit (9, Fig.1, 16) configured to generate an output voltage (2, Figs. 1, 6, 10, 16) and unknown voltage (1, Fig.16, *Kimura*, Abstract, col. 9, lines 1-col. 14).

8. *Kimura* is silent in respect to accurately controlling hysteresis. However, *Stakely* teaches a first circuit (10, Fig.1) configured to generate a reference output in reference to a plurality of reference voltage (VREF, IREF) and a second circuit (20, Fig.1) configured to generate an output voltage (Vout, Fig. 1) and unknown voltage (V-in, Fig.1) wherein said output voltage comprises accurately controlled hysteresis. (*Stakely*, Abstract, cols. 2, lines 36-col.6)

9. It would have been obvious to one of ordinary skill to combine *Kimura* with *Stakely*. Do so would provide very accurate hysteresis that will be sensitive to output voltage signals. (*Stakely*, col. 1, lines 45-col. 2, lines 1-24)

10. As per claims 4, 5, 17, and 18, *Stakely* teaches wherein said output voltage of the comparator circuit is fed back to control the voltage switch selection. (col. 3, lines 37-39)

11. As per claims 6 and 7, *Kimura* teaches a first circuit comprises a voltage reference circuit configured to generate said plurality of reference voltages; and a reference switch circuit configured to switch between said plurality of reference voltage to generate said output voltage. Neither *Kimura* nor *Stakely* expressly teach of a bandgap reference circuit, however, one of ordinary skill in that art would readily recognize that the voltage reference circuit performs the same functions of a bandgap reference circuit. Furthermore, one of ordinary skill would readily recognize that the bandgap reference circuit is configured to respond to voltage, process, and temperature variations.

12. As per claim 9, *Kimura* teaches wherein said voltage reference circuit comprises:
a plurality of current sources configured to generate said plurality of reference voltages; and a plurality of resistors each coupled to at least one of said plurality of current sources. (Figs. 6, 10, 16)

13. As per claims 10 and 11, *Kimura* teaches wherein said reference switch circuit comprises:
a plurality of switches each (i) configured to receive at least one of said plurality of reference voltages and (ii) coupled to said reference output voltage, and wherein said plurality of switches are configured in response to said output voltage. (Figs. 6, 10, 16)

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14. As per claims 19 and 20, *Kimura-Stakely* one of ordinary skill would readily recognize that the voltage reference circuit is configured to respond to voltage, process, and temperature variations. Further, the combined system of *Kimura-Stakely* teaches summing a positive temperature coefficient and a negative temperature coefficient; and controlling a voltage level of said plurality of reference voltages.

Allowable Subject Matter

15. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammara R Peyton whose telephone number is 703-306-5508. The examiner can normally be reached on 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Gaffin can be reached on 703-308-3301. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-746-7240 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature of relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Mailed responses to this action should be sent to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231.

Faxes for formal communications intended for entry should be sent to:

(703) 308-9051,

or, for informal or draft communications, to:

(703) 306-5404 (please label "PROPOSED" or "DRAFT").


Hand-delivered responses should be brought to:

Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor

(Receptionist

Tammara Peyton

February 23, 2003


3/4/03
KIM HUYNH
PRIMARY EXAMINER